



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Alex Wayne Hietala
Filed: 06/12/2001
Serial Number: 09/879,806
For: **FRACTIONAL-N DIGITAL MODULATION WITH ANALOG IQ INTERFACE**

Examiner: TBA
Art Unit: TBA

Commissioner for Patents
Washington, D.C. 20231

POWER OF ATTORNEY

Sir:

The undersigned, assignee of the entire interest in and to an application of Alex Wayne Hietala for U.S. Letters Patent for **FRACTIONAL-N DIGITAL MODULATION WITH ANALOG IQ INTERFACE**, filed 06/12/2001, Application Serial Number 09/879,806 by an assignment document recorded with the United States Patent and Trademark Office (a copy attached hereto), hereby appoints the firm of Withrow & Terranova, P.L.L.C., comprising Benjamin S. Withrow, Reg. No. 40,876 and Steven N. Terranova, Reg. No. 43,185, as my attorneys and/or agents with full power of substitution and revocation, to prosecute this application, to make alterations and amendments therein, to receive the patent, and to transact all business in the Patent and Trademark Office connected therewith.

Furthermore, in accordance with 37 CFR §3.73(b), the undersigned hereby states that the documentary evidence of a chain of title from the original owner to the assignee, i.e. assignment document referenced above, has been reviewed and the undersigned certifies that, to the best of assignee's knowledge and belief, title is in assignee who seeks to prosecute this application.

PLEASE ADDRESS ALL COMMUNICATIONS AND TELEPHONE CALLS TO:
WITHROW & TERRANOVA, P.L.L.C., P.O. BOX 1287, CARY, NORTH CAROLINA
27512, (919) 654-4520.

RF Micro Devices, Inc.

BY:

Suzanne B. Rudy
Treasurer

Date: 7-24-01

File No.: 2867-127

AUG 23 2001

RECORDATION FORM COVER SHEET

PATENTS ONLY

U.S. DEPARTMENT OF COMMERCE

Patent and Trademark Office

Atty. Docket No. 2867-127

To the Commissioner for Patents: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

Alex Wayne Hietala

2. Name and address of receiving party(ies):

Name: RF Micro Devices, Inc.

Internal Address:

Additional name(s) of conveying party(ies) attached? Yes No

3. Nature of conveyance:

 Assignment Merger Security Agreement Change of Name Other

Street Address: 7628 Thorndike Road

Execution Date: July 24, 2001

City: Greensboro State: NC Zip: 27409

Country: USA

Additional name(s) & address(es) attached? Yes No

4. Application number(s) or registration numbers(s):

If this document is being filed together with a new application, the execution date of the application is: _____

A. Patent Application No.(s)

09/879,806

B. Patent No.(s)

Additional numbers attached? Yes No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Benjamin S. Withrow
 WITHROW & TERRANOVA, P.L.L.C.
 P.O. Box 1287
 Cary, NC 27512

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41): \$40.00

 Enclosed Authorized to be charged to deposit account

8. Deposit account number:

50-1732

(Attach duplicate of this page if paying by deposit account)

DO NOT USE THIS SPACE

9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Benjamin S. Withrow

Name of Person Signing

Signature

August 21, 2001

Date

Total number of pages including cover sheet, attachments, and document: 4

Mail documents to be recorded with required cover sheet information to:

Director of Patents and Trademarks, Box Assignments

Washington, D.C. 20231

ASSIGNMENT

This Assignment made by me, **Alex Wayne Hietala**, hereinafter referred to as assignor, a citizen of the United States of America, residing at 14017 S. 9th Street, City of Phoenix, County of Maricopa, State of Arizona;

WITNESSETH: That,

WHEREAS, I am the sole inventor of certain new and useful improvements in
FRACTIONAL-N DIGITAL MODULATION WITH ANALOG IQ INTERFACE, for which I have applied for Letters Patent of the United States on June 12, 2001, Application Serial Number 09/879,806; and

WHEREAS, **RF Micro Devices, Inc.**, a corporation duly organized and existing under the laws of the State of North Carolina and having a principal place of business at 7628 Thorndike Road, City of Greensboro, County of Guilford, State of North Carolina, hereinafter referred to as assignee, is desirous of acquiring the entire right, title and interest in and to said invention as described in the specification executed herewith, and any and all Letters Patent which shall be granted therefor;

NOW, THEREFORE, To All Whom It May Concern, be it known that for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I, the said assignor, have sold, assigned, transferred and set over unto the said assignee, its successors and assigns, the entire right, title and interest in and to the above-mentioned application and invention and in and to any and all Letters Patent of the United States which may hereafter be granted therefor, and in any and to any and all continuations, continuations-in-part, substitutions, divisions or reissues of said Letters Patent, the same to be held and enjoyed by the said assignee, for its interest, and for its own use and behalf; and the use and behalf of its successors and

assigns, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held and enjoyed by me had this assignment and sale not been made.

And for the consideration aforesaid, I hereby covenant and agree to and with the said assignee, its successors and assigns, that at the time of the execution and delivery of these presents I am the sole and lawful owner of the entire right, title and interest in and to the invention, application and Letters Patent above-mentioned and that the same are unencumbered, and that I have good right and lawful authority to sell and convey the same in the manner herein set forth.

And for the consideration aforesaid, I hereby covenant and agree to and with the said assignee, its successors and assigns, that I will, whenever its counsel or the counsel of its successors and assigns, learned in the law, shall advise that an amendment, division, continuation, continuation-in-part, or substitution of, or any other proceeding in connection with said application, including interference proceedings, is lawful and desirable, sign all papers and drawings, take all rightful oaths, and do all acts necessary or required to be done for the procurement of valid Letters Patent for said invention, or for the reissue of the same without charge to my said assignee, its successors or assigns, but at its or their expense.

I hereby request the Commissioner for Patents to issue the Letters Patent in accordance with this instrument.

For the consideration aforesaid, I have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto the said assignee, its successors, assigns or nominee, the entire right, title and interest in and to any and all Letters Patent for said invention which may be granted in countries foreign to the United States and in and to any

applications for Letters Patent which may be filed for said invention in countries foreign to the United States and in and to the invention described in said application; and I hereby authorize and empower the said assignee, its successors, assigns or nominees to apply for Letters Patent or other form of protection on said invention in its own name or in the name of its successor, assignee, or nominee, in any and all countries where it may desire to file such application and where said application may be filed by another than the inventor; and I hereby covenant and agree to sign all papers and drawings, take all rightful oaths, and do all acts necessary or required to be done for procurement of Letters Patent, or other form of protection, for said invention or inventions in countries foreign to the United States, and for further investing or confirming the right and title therein to the assignee, its successors, assignee, or nominee, without charge to my said assignee, its successor, assignee or nominee, but at its or their own expense.

IN WITNESS WHEREOF, I have hereunto set my hand and seal.

24 July 2001
Date


Alex Wayne Hietala